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Or, \$100 for 2 years=\$ 200 for 1 year.

\$200 for 4 years=\$ 800 for 1 year.

\$1000 for 1 years.

\$1000÷\$300=3 years, 4 months.

PROBLEMS.

67. Proposed by B. F. FINKEL, A. M., Professor of Mathematics and Physics in Drury College, Springfield, Missouri.

A agreed to work a year for \$300 and a suit of clothes. At the end of five months he left, receiving for his wages \$60 and the clothes. What was the suit worth?

68. Proposed by F. P. MATZ, Sc. D., Ph. D., Professor of Mathematics and Astronomy in Irving College, Mechanicsburg, Pennsylvania.

The population of a city is annually increasing $m=2\frac{1}{2}\%$. If the population now is $P=68921$, what was it $n=3$ years ago? At this rate of increase, what will the population be $n=3$ years hence?

GEOMETRY.

Conducted by B. F. FINKEL, Springfield, Mo. All contributions to this department should be sent to him.

SOLUTIONS OF PROBLEMS.

68. Proposed by I. J. SCHWATT, Ph. D., Instructor in Mathematics, University of Pennsylvania, Philadelphia, Pennsylvania.

1. The point of intersection K_a' of the tangent drawn to the circumcircle about the triangle ABC at A and the side BC is harmonic conjugate to K_a with respect to BC . (K_a is the point where the symmedian line through A of the triangle ABC meets the side BC .)

2. The point K_a' is the center of the Apollonius circle passing through A of the triangle ABC .

3. Grebes point is on the line joining the middle point of any side of a triangle with the middle point of the altitude to this side.

I. Solution by WILLIAM HOOVER, A. M., Ph. D., Professor of Mathematics and Astronomy, Ohio University, Athens, Ohio.

1. In trilinears, the equation to the circumcircle of the triangle of reference is

$$a\beta\gamma + b\alpha\gamma + c\alpha\beta = 0 \dots\dots\dots(1).$$